

**WHAT IS CLAIMED IS:**

1. A filter cartridge having a multilayer pleated filter media comprised of a filter membrane layer, and at least one support layer for the filter membrane layer, wherein said at least one support layer is an expanded polymeric film mesh.
2. The filter cartridge of claim 1, wherein said filter media includes a pair of said support layers which sandwich said filter membrane layer therebetween.
3. The filter cartridge of claim 1 or 2, wherein said expanded polymeric film mesh is formed of a dense plurality of generally diamond-shaped apertures.
4. The filter cartridge of claim 3, wherein said expanded polymeric film exhibits an open area of at least about 40%.
5. The filter cartridge of claim 4, wherein said expanded polymeric film exhibits an open area of between about 50% to about 60%.
6. The filter cartridge of claim 4, wherein said filter membrane layer and said expanded polymeric film each consists of polytetrafluoroethylene.
7. A filter cartridge comprising concentrically disposed slotted core and cage members, and a multilayer pleated filter media positioned in an annular space established between said core and cage members, wherein said filter media includes an inner filter membrane layer

sandwiched between a pair of support layers for the filter membrane layer, wherein each said support layer is an expanded polymeric film mesh.

8. The filter cartridge of claim 7, wherein said expanded polymeric film mesh is formed of a dense plurality of generally diamond-shaped apertures.

9. The filter cartridge of claim 8, wherein said expanded polymeric film exhibits an open area of at least about 40%.

10. The filter cartridge of claim 8, wherein said expanded polymeric film exhibits an open area of between about 50% to about 60%.

11. The filter cartridge of claim 7, wherein said filter membrane layer and said expanded polymeric film each consist of polytetrafluoroethylene.

12. The filter cartridge of claim 1 or 7, wherein  
    pleats of the multilayer pleated filter media have elongate  
        pleat axes disposed substantially parallel to a central  
        longitudinal axis of the filter cartridge, and wherein  
    said expanded polymeric film mesh is formed of a dense  
        plurality of generally diamond-shaped apertures  
        having respective long and short dimensions; and  
    wherein  
    said expanded polymeric film mesh is disposed such that  
        said long dimensions of said diamond-shaped  
        apertures thereof are oriented substantially

transverse to said elongate pleat axes of the pleated filter media.

13. The filter cartridge of claim 12, wherein said filter media includes a pair of said support layers which sandwich said filter membrane layer therebetween.

14. The filter cartridge of claim 12, wherein each of said filter membrane layer and said expanded polymeric film consists of polytetrafluoroethylene.

15. The filter cartridge of claim 12, wherein said expanded polymeric film exhibits an open area of at least about 40%..

16. A generally cylindrical filter cartridge comprising:  
an inner core member,  
an outer cage member concentrically positioned around said inner core member so as to establish an annular space therebetween,  
and

multilayer pleated filter media positioned in said annular space established between said core and cage members, wherein said filter media includes a filter membrane layer and at least one expanded polymeric film mesh as a support layer for the filter membrane layer; wherein

pleats of the multilayer pleated filter media have elongate pleat axes disposed substantially parallel to a central longitudinal axis of the filter cartridge, and wherein

said expanded polymeric film mesh is formed of a dense plurality of generally diamond-shaped apertures having respective long and short dimensions; and wherein

said expanded polymeric film mesh is disposed such that said long dimensions of said diamond-shaped apertures thereof are oriented substantially transverse to said elongate pleat axes of the pleated filter media.

17. The filter cartridge of claim 16, wherein said filter media includes a pair of said expanded polymeric mesh as support layers which sandwich said filter membrane layer therebetween.

18. The filter cartridge of claim 16, wherein each of said filter membrane layer and said expanded polymeric film consists of polytetrafluoroethylene.

19. The filter cartridge of claim 18, wherein each of said inner core and outer cage members consists of polytetrafluoroethylene.

20. The filter cartridge of claim 16, wherein said expanded polymeric film exhibits an open area of at least about 40%.